IN THE CLAIMS

1. A method for fetching bandwidth control information about a datapacket in a network that is associated with a port number carried within such datapacket, the method comprising the steps of:

parsing a port number from an information header in a datapacket;

searching for a matching port number in a port group table that associates port groups, port numbers, and service-level application policies; and

pointing to a particular service-level application policy if a match occurs in the step of searching.

2. The method of claim 1, further comprising the step of:

using said particular service-level application policy to control a communication bandwidth afforded to a communication throughput of said datapacket.

3. The method of claim 1, further comprising the preliminary step of:

listing a plurality of applications with standard port numbers as individual group entries in said port group table that are to be afforded communication bandwidth control; and

associating a plurality of service-level application policies with corresponding ones of said plurality of applications.

4. A network, comprising:

a local group of network workstations and clients with a set of corresponding local port numbers, and that periodically access a wide area network (WAN);

at least one type of application program for executing packet exchanges that involve any of the local group;

a class-based queue (CBQ) traffic shaper disposed between the local group and said WAN, and providing for a variety of access bandwidths;

a IP-address/port-number classifier (IP-address/port-number classifier) disposed within the CBQ traffic shaper, and providing for an identification of which application program transmitted or received a particular packet at any of the local group; and

an automatic bandwidth manager (ABM) disposed within the CBQ traffic shaper, and providing for a controlled delivery rate of each said particular packet that is dependent on the application-program type determined by the IP-address/port-number classifier;

wherein, bandwidth control information about a datapacket in the network is associated with a source or destination port number of such datapacket, and a processor provides for parsing a port number from an information header in a datapacket, and standard port numbers are gathered into groups that are used to point to individual service-level agreement (SLA) policies.

5. The network of claim 4, wherein:

the CBQ traffic shaper is configured such that a user SLA policy is attached to each and every said group.

6. The network of claim 4, wherein:

the CBQ traffic shaper is configured so any SLA policy conflicts between local port number transfers are resolved with a lower-speed one of said conflicting policies taking precedence.

7. The network of claim 4, wherein:

the CBQ traffic shaper dynamically attaches SLA policies and readjusts the CBQ traffic shaper to allow an on-demand type of delivery.

8. The network of claim 4, wherein:

the IP-address/port-number classifier monitors a particular port number and port for information that indicates that a particular application program is beginning a session;

the IP-address/port-number classifier uses said information to gather additional port number and port information that can be used to identify subsequent packet exchanges that belong to said particular application program; and

the ABM is provided with said information and said additional port number and port information for a class-base queue that favors packets from said particular application program with increased access bandwidth.

9. A computer network method, comprising the steps of:

dividing a plurality of datapackets into classes that include at least one class for packets exchanged over a computer network by a particular application program;

identifying which class each particular one of plurality of packets belongs to on said computer network;

controlling a delivery rate of an identified particular one of plurality of datapackets according to its classification;

parsing a port number from an information header in a datapacket;

searching for a matching port number in a port group table that associates port groups, port numbers, and service-level application policies; and

pointing to a particular service-level application policy if a match occurs in the step of searching.

10. The method of claim 9, wherein:

the step of identifying includes using a IP-address/port-number classifier (IP-address/port-number classifier) to monitor a particular port number and port for information that indicates that a particular application program is beginning a session, and said IP-address/port-number classifier uses said information to gather additional port number and port information that can be used to identify subsequent packet exchanges that belong to said particular application program; and

the step of controlling includes using an automatic bandwidth manager (ABM) that is provided with said information and said additional port number and port information, and uses a class-base queue that favors packets from said particular application program with increased access bandwidth.

11. The method of claim 10, wherein:

the step of dividing comprises classifying ones of the plurality of datapackets according to an adjustable parameter.

12. The method of claim 10, wherein:

the step of dividing comprises classifying ones of the plurality of datapackets depending on a dynamic variable.

13. The method of claim 10, wherein:

the step of identifying includes monitoring exchanges between a network client and a network server to extract a port information that is used in a subsequent data exchange; and

the step of classifying is such that the classifying depends on said port information.

14. The method of claim 10, wherein:

the step of controlling includes buffering ones of the plurality of datapackets.

15. The method of claim 10, wherein:

the step of controlling includes distributing ones of the plurality of datapackets amongst a corresponding plurality of class-based queues that are operated at rates that are dependent on said classes.

16. A computer network method, comprising the steps of:

dividing a plurality of datapackets into classes that include at least one class for packets exchanged over a computer network by a particular application program;

identifying which class each particular one of plurality of packets belongs to on said computer network with a IP-address/port-number classifier (IP-address/port-number classifier) that monitors a particular port number and port for information that indicates that a particular application

program is beginning a session, and said IP-address/port-number classifier uses said information to gather additional port number and port information that can be used to identify subsequent packet exchanges that belong to said particular application program;

communicating any application-identifying information obtained in the step of identifying within a message to an automatic bandwidth manager (ABM); and

controlling with said ABM a delivery rate of an identified particular one of plurality of datapackets according to its classification;

wherein, bandwidth control information about a datapacket in the network is associated with a source or destination port number of such datapacket, and a processor provides for parsing a port number from an information header in a datapacket, and standard port numbers are gathered into groups that are used to point to individual service-level agreement (SLA) policies.